REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

The most recent Official Action maintains the rejection of independent Claim 1 based on the combination of the disclosures in U.S. Patent No. 6,036,670 to *Wijeratne et al.* and U.S. Patent No. 5,911,715 to *Berg et al.*, and also maintains the rejection of independent Claims 1, 12, 25 and 26 based on the combination of the disclosures in U.S. Patent No. 5,217,482 to *Keith* and *Berg et al.* The Official Action recognizes that neither *Wijeratne et al.* nor *Keith* discloses a grooved portion positioned in the claimed manner and possessing the features recited in the independent claims, and various dependent claims. The Official Action thus relies upon the disclosure in *Berg et al.*

The Amendment filed on March 27, 2007 explained that *Berg et al.* discloses, in the embodiment shown in Figs. 9-11, a catheter assembly 50 that includes a dilation catheter 52 positioned within a guide catheter 54. *Berg et al.* describes that the guide catheter 54 is provided with a transition zone 61 defined by a plurality of alternating annular grooves 66 and raised portions 68. As explained in the most recent Amendment, *Berg et al.* does not describe providing the disclosed transition zone 61 on a distal shaft which is connected to a balloon. More specifically, *Berg et al.* does not describe that the transition zone 61 is provided at least at the front portion, positioned on the rear side from a balloon, of a distal shaft such that the transition zone has a distal end located near a connection portion between the balloon and the distal shaft.

The most recent Official Action responds to this argument by pointing out that *Berg et al.* is not relied upon for disclosure of a balloon because *Wijeratne et al.* and *Keith* disclose a balloon on a shaft. However, this response misses the point. The claims in this application recite the position of the grooved portion relative to the balloon. Since *Berg et al.* does not disclose a balloon, it cannot be said that *Berg et al.* discloses locating the disclosed transition zone 61 relative to a balloon in the manner claimed. That is, because *Berg et al.* lacks disclosure of a balloon connected at the front portion of a distal shaft, it necessarily follows that *Berg et al.* does not disclose that at least the front portion of a distal shaft, on the rear side of a balloon, should be provided with a grooved portion as claimed so that the distal end of the groove portion is located near the connection portion of the balloon and the distal shaft.

In addition, *Berg et al.'s* disclosure of a catheter assembly 50 that includes both a dilation catheter 52 and a guiding catheter 54 is significant in another respect. That *Berg et al.* specifically discloses providing the transition zone 61 on the guiding catheter 54 and not the dilation catheter 52 further supports the conclusion that the disclosure in *Berg et al.* does not teach providing the transition zone 61 on a distal shaft connected to a balloon. Stated differently, *Berg et al.* describes a catheter assembly 50 having both a dilation catheter 52 and a guiding catheter 54, yet *Berg et al.* specifically discloses providing the transition zone 61 on the guiding catheter 54 (not the dilation catheter 52). There is thus no reason why one of ordinary skill in the art would have combined the references in the manner claimed (i.e., so as to provide the transition zone 61 on a distal shaft connected to a balloon).

In addition, independent Claims 1, 12, 25 and 26 are amended to recite that the groove of the groove portion possess a depth that changes relative to a longitudinal extent of the distal shaft so that the groove depth is relatively larger on the distal side of the grooved portion and relatively smaller on the proximal side of the grooved portion. This is discussed, for example, near the bottom portion of page 16 of the present application. With this construction, the rigidity of the catheter changes relatively smoothly from one portion of the catheter (distal shaft) at which the balloon is located to another portion. As a result, even if the portion of the distal shaft adjacent the balloon is sharply curved during use in a meandering portion of a blood vessel, stress is inhibited from concentrating at one point, thus reducing the possible occurrence of kinking. This helps facilitate a reliable transmission of the pushing force applied on the proximal side of the balloon catheter to the distal end of the catheter, thus allowing the balloon catheter to be inserted to a more peripheral vascular vessel.

As explained above, *Berg et al. s'* disclosure of a transition zone 61 is specifically applied to the guiding catheter 54, not the dilation catheter 52. In addition, *Berg et al.* does not disclose configuring the disclosed transition zone 61, consisting of alternating grooves 66 and raised portions 68, so that the depth of the grooves is relatively larger on the distal side of the grooved portion and relatively smaller on the proximal side of the grooved portion.

The discussion in lines 52-55 of column 9 of *Berg et al.* mentions that the grooves 66 may be of a generally trapezoidal shape, and that the width and depth of the grooves can be varied along a given longitudinal section of the catheter. This general mention of varying the width and depth of the grooves is not a specific

disclosure of the particular change in depth recited in the independent claims presented here.

For at least the reasons set forth above, it is respectfully submitted that the independent claims at issue here are patentably distinguishable over the disclosure in *Berg et al.* considered together with the disclosures in *Wijeratne et al.* and *Keith*. Accordingly, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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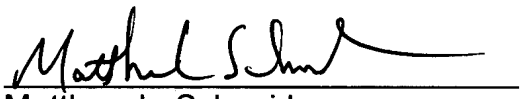
Date: September 26, 2007 By: 

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